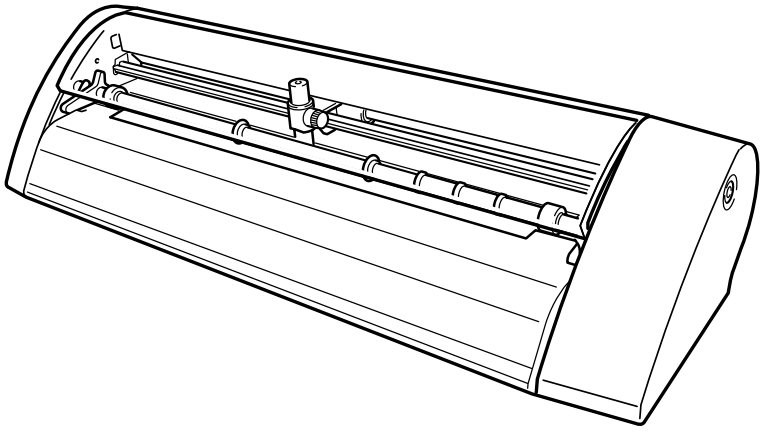
SERVICE NOTES

Roland

STIKA
DESIGN CUTTER

SX-15/12/8



Structure & Spare Parts 1

Electrical Section 2

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5673-02

Revision Record

Revision No.	Date	Description of Changes	Approval	Issued by
0	2001.10.4	First Edition	Inagaki	Kaneko
1	2003.5.2	1-2 : BODY Each parts have been revised. 7-1 : MAINTENANCE CHECK LIST hase been revised.	Inagaki	Tamaki
2	2004.7.23	1-1 : ACCESSORIES Each parts have been revised.	Inagaki	Mabuchi

To Ensure Safe Work

About ⚠WARNING and ⚠CAUTION Notices.

⚠WARNING	Used for instructions intended to alert the operator to the risk of death or severe injury should the unit be used improperly.
⚠CAUTION	Used for instructions intended to alert the operator to the risk of injury or material damage should the unit be used improperly. * material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

	The △ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. The symbol at left means Òdanger of electrocutionÓ.
	The ⃠ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. The symbol at left means not to touch.
	The symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. The symbol at left means the power-cord plug must be unplugged from the outlet.

In addition to the ⚠WARNING and ⚠CAUTION symbols, the symbols shown below are also used.

: Tips and advise before the adjustment.

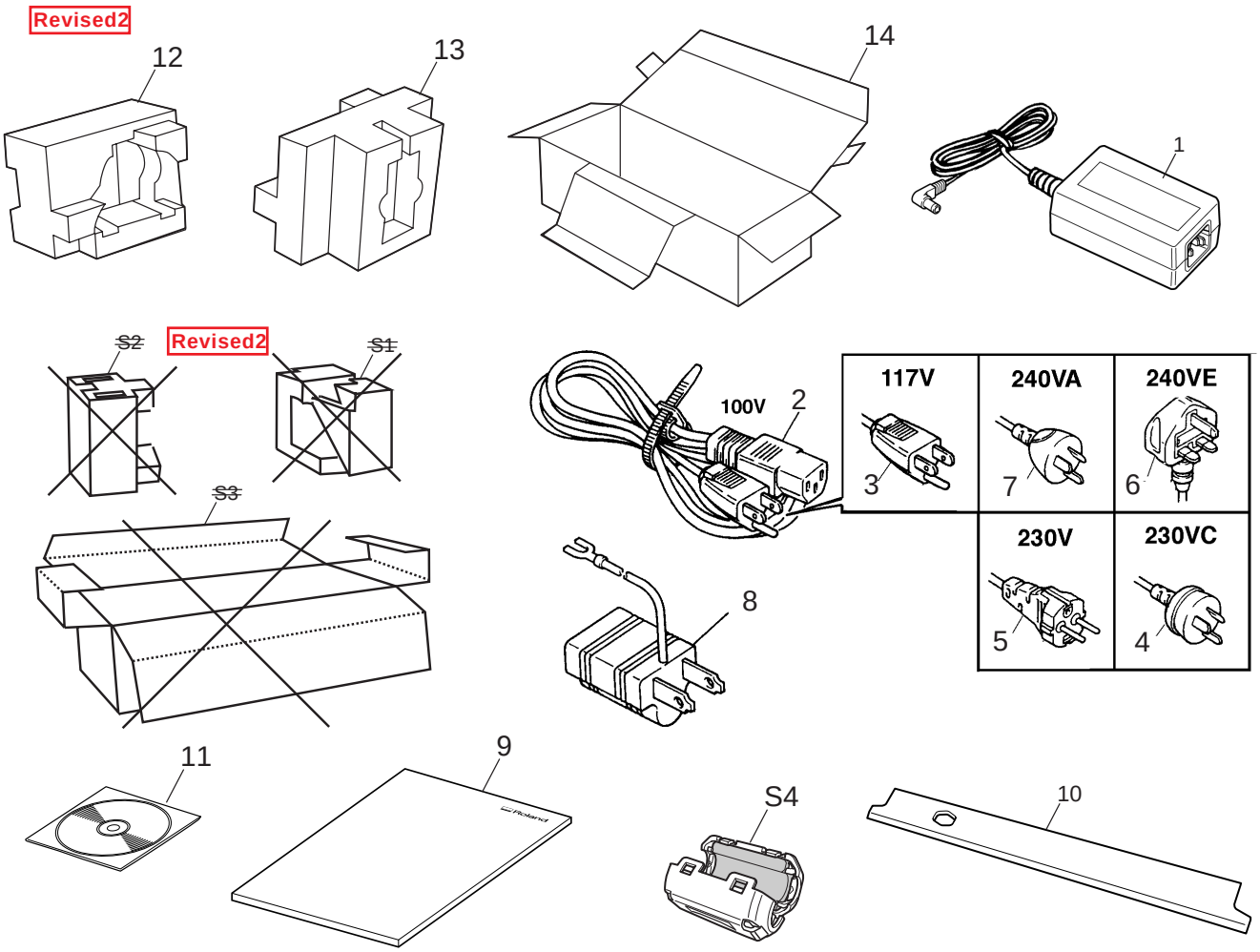
⚠WARNING

Turn off the primary power SW before servicing.

Roland

SX-15/12/8

1-1 ACCESSORIES



PARTS LIST -Main Parts-

	Parts No.	Parts Name	SX-8	SX-12	SX-15
1	22425111	POWER UNIT,AC-ADP.DCP-801	*	*	*
2	23495214	AC CORD VCTF 100V 7A 3P-S	*	*	*
3	13499109	AC CORD SJT 117V 10A 3PVC	*	*	*
4	13439801	CABLE-AC 3P CHINA 10A/250V S	*	*	*
5	23495125	AC-CORD H05VV 230V 10A S	*	*	*
6	13499111	AC CORD H05VV-F 240VE 10A S	*	*	*
7	23495124	AC CORD 3ASL/100 240VA 10A SAA	*	*	*
8	13499209	ADAPTER PLUG (100V)	*	*	*
9	26015343	MANUAL,USE JP SX-15/12/8 (JAPANESE)	*	*	*
	26015344	MANUAL,USE EN SX-15/12/8 (ENGLISH)	*	*	*
10	21545147	PAD,CUTTER SX-8	*		
	21545146	PAD,CUTTER SX-12		*	
	21545145	PAD,CUTTER SX-15			*
11	22405214	DISK-CD,RSP-019 SOFTWARE PACKAGE	*	*	*
12	21545155	PAD,L SX-15	*	*	*
13	21545154	PAD,R SX-15	*	*	*
14	22605122	CARTON 2, SX-8	*		
	22605123	CARTON 2, SX-12		*	
	22605124	CARTON 2, SX-15			*

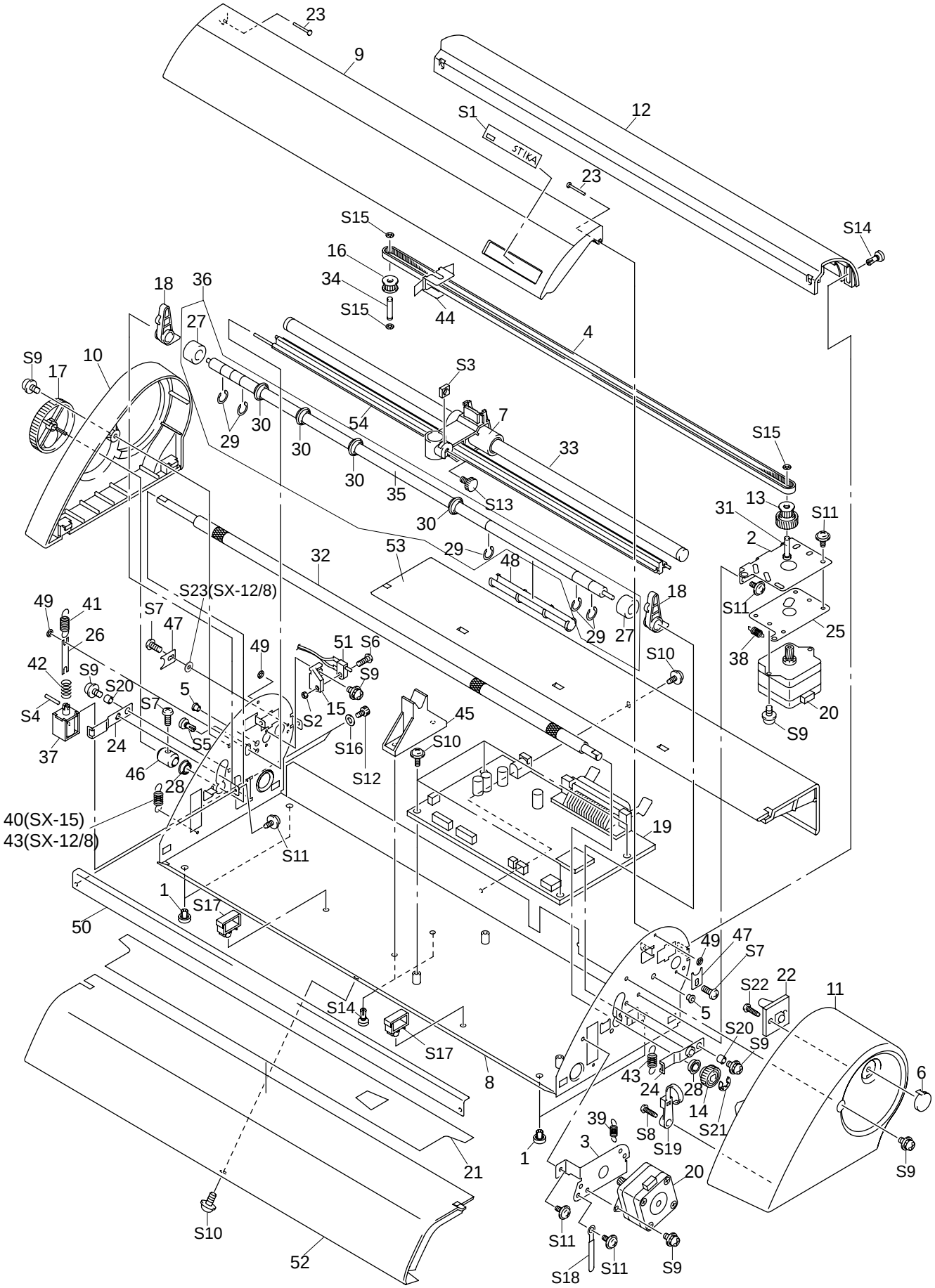
Revised2

PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name		SX-8	SX-12	SX-15
~~S1~~		~~PAD, R SX-8~~	~~G2237623~~	*		
		~~PAD, R SX-15~~	~~G2237622~~		*	*
~~S2~~		~~PAD, L SX-8~~	~~G2237624~~	*		
		~~PAD, L SX-15~~	~~G2237621~~		*	*
~~S3~~		~~CARTON,SX-8~~	~~G2627750~~	*		
		~~CARTON,SX-12~~	~~G2627751~~		*	
		~~CARTON,SX-15~~	~~G2607216~~			*
S4	12399354	FILTER(E),LF-902	F540916	*	*	*

Revised2

1-2 BODY Revised 1



PARTS LIST -Main Parts-

	Parts No.	Parts Name	SX-8	SX-12	SX-15
1	11879124	ABSORBER,FF-7 SX-15	*	*	*
2	22355759	BASE,C-MOTOR SX-15	*	*	*
3	22355760	BASE,G-MOTOR SX-15	*	*	*
4	21925123	BELT,B248MXL4.8 SX-8	*		
	21925124	BELT,B347MXL4.8 SX-12		*	
	21925125	BELT,B427MXL4.8 SX-15			*
5	12159532	BUSH,80F-0204	*	*	*
6	22495501	BUTTON,SW SX-15	*	*	*
7	7567307000	CARRIAGE ASSY SX-15	*	*	*
8	22815143	CHASSIS,SX-8	*		
	22815144	CHASSIS,SX-12		*	
	22815142	CHASSIS SX-15			*
9	22025561	COVER,FRONT SX-8	*		
	22025562	COVER,FRONT SX-12		*	
	22025563	COVER,FRONT SX-15			*
10	22025567	COVER,SIDE L SX-15	*	*	*
11	22025568	COVER,SIDE R SX-15	*	*	*
12	22025564	COVER,TOP SX-8	*		
	22025565	COVER,TOP SX-12		*	
	22025566	COVER,TOP SX-15			*
13	7567313600	DRIVE PULLEY ASSY SX-15	*	*	*
14	21685139	GEAR,H51S6(B5C9) SX-15	*	*	*
15	21655215	HOLDER,SW SX-15	*	*	*
16	7567309000	IDLE PULLEY ASSY SX-15	*	*	*
17	22475113	KNOB,SX-15	*	*	*
18	22145449	LEVER,P-ROLLER SX-15		*	*
19	7567320010	MAIN BOARD ASS'Y SX-15	*	*	*
20	7567413500	MOTOR ASSY SX-12	*	*	
	7567313500	MOTOR ASSY SX-15			*
21	21545147	PAD,CUTTER SX-8	*		
	21545146	PAD,CUTTER SX-12		*	
	21545145	PAD,CUTTER SX-15			*
22	7567320020	PANEL BOARD ASS'Y SX-15	*	*	*
23	21535127	PIN,F-COVER SX-15	*	*	*
24	7567312000	PINCH ROLLER STAY ASSY SX-15	*	*	*
25	22055494	PLATE,C-MOTOR SX-15	*	*	*
26	22055309	PLATE,SOLENOID JOINT STX-7	*	*	*
27	21565104	P-ROLLER,FD14.6S8 SX-15	*	*	*
28	11889107	R-BEARING,D10S6(B3FL)	*	*	*
29	11519109	RING,CRESCENT 8	*	*	*
30	21505112	ROLLER,FD13.8 SX-15	*	*	*
31	22295246	SHAFT,DRIVE PULLEY SX-15	*	*	*
32	22295240	SHAFT,G-ROLLER SX-8	*		
	22295241	SHAFT,G-ROLLER SX-12		*	
	22295242	SHAFT,G-ROLLER SX-15			*
33	22295250	SHAFT,GUIDE SX-8	*		
	22295249	SHAFT,GUIDE SX-12		*	
	22295245	SHAFT,GUIDE SX-15			*
34	22295247	SHAFT,IDLE PULLEY SX-15	*	*	*
35	22295251	SHAFT,P-ROLLER SX-8	*		
	22295252	SHAFT,P-ROLLER SX-12		*	
	22295248	SHAFT,P-ROLLER SX-15			*
36	7567508000	PINCH ROLLER ASSY SX-8	*		
	7567408000	PINCH ROLLER ASSY SX-12		*	
	7567308000	PINCH ROLLER ASSY SX-15			*

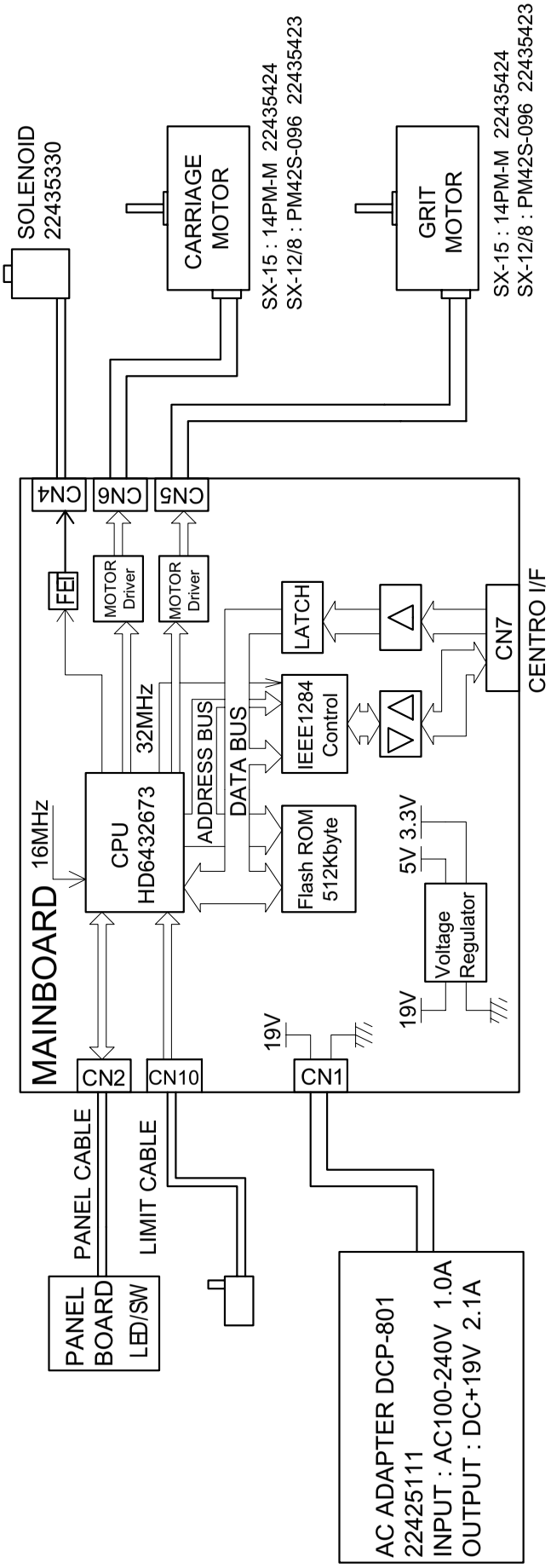
PARTS LIST -Main Parts-

	Parts No.	Parts Name	SX-8	SX-12	SX-15
37	22435330	SOLENOID,STC-05A SX-15	*	*	*
38	22175249	SPRING,GEAR-C SX-15	*	*	*
39	22175254	SPRING,GEAR-G SX-15	*	*	*
40	22175228	SPRING,L P-ROLLER SX-15			*
41	22175274	SPRING,PEN DOWN SX-15	*	*	*
42	22175262	SPRING,PEN UP SX-15	*	*	*
43	22175227	SPRING,R P-ROLLER SX-15	*	*	*
44	22175256	SPRING,TENSIONER SX-15	*	*	*
45	22715293	STAY,BACK-UP SX-15			*
46	22135330SZ	STOPPER,G-ROLLER B STX-7	*	*	*
47	22135401	STOPPER,G-SHAFT SX-15	*	*	*
48	22135399	STOPPER,P-ROLLER SX-15			*
49	22135352	STOPPER,RING STX-7/8	*	*	*
50	22325437	SUPPORT,FRAME SX-8	*		
	22325436	SUPPORT,FRAME SX-12		*	
	22325434	SUPPORT,FRAME SX-15			*
51	7567314000	SW ASSY SX-15	*	*	*
52	21965138	TABLE,FRONT SX-8	*		
	21965139	TABLE,FRONT SX-12		*	
	21965134	TABLE,FRONT SX-15			*
53	21965135	TABLE,REAR SX-8	*		
	21965136	TABLE,REAR SX-12		*	
	21965133	TABLE,REAR SX-15			*
54	7567506000	Y-RAIL ASSY SX-8	*		
	7567406000	Y-RAIL ASSY SX-12		*	
	7567306000	Y-RAIL ASSY SX-15			*

PARTS LIST -Supplemental Parts-

	Parts Name		
S1	LABEL,STIKA LOGO SX-15 #LA351	22535327	
S2	NUT,HEXAGON M2 C TYPE2	31109803	
S3	NUT,SQUARE M4 C	31109602	
S4	PIN,SPRING 1.6*10 SUS WAVE-TYP	31119901	
S5	RIVET,NYLON SR3-5.5 B	31159905	
S6	SCERW,BINDING HEAD M2X8 BC	31019110	
S7	SCREW,SET WP M3*3 C	31199701	Revised 1
S8	SCERW,BINDING HEAD P-TIGHT M3X10 BC	31019708	
S9	SCREW,C-SEMS M3*6 UNI-C	31679901	
S10	SCREW,CUP M3X6 NI	31289102	
S11	SCREW,CUP M3X4 UNI-C	31289104	
S12	SCREW,HEXAGONAL CAP M2X4 C	31049165	
S13	SCREW,RESIN KNURL M4*8 WH	31179101	Revised 1
S14	SCREW,BINDING P-TIGHT 4*10 BC	31019704	Revised 1
S15	WASHER,POLYSLIDER 3*6*0.4 CUT	31249953	
S16	WASHER,SPRING M2	31249308	
S17	SADDLE,LOCKING WIRE CHJ-05	31409810	
S18	WIRE-CLAMP,WL3-32	11769121	
S19	WIRE-CLAMP,YJ-110		
S20	BUSH,ROLL 3X2.5	31029825	
S21	RETAINING-RING, ETW−4	31149703	
S22	SCERW,BINDING HEAD P-TIGHT M3X8 C	31019701	
S23	WASHER,PLAIN 3*8*0.5 C (Only for SX-12/8)	31249202	Revised 1

2-1 WIRING MAP

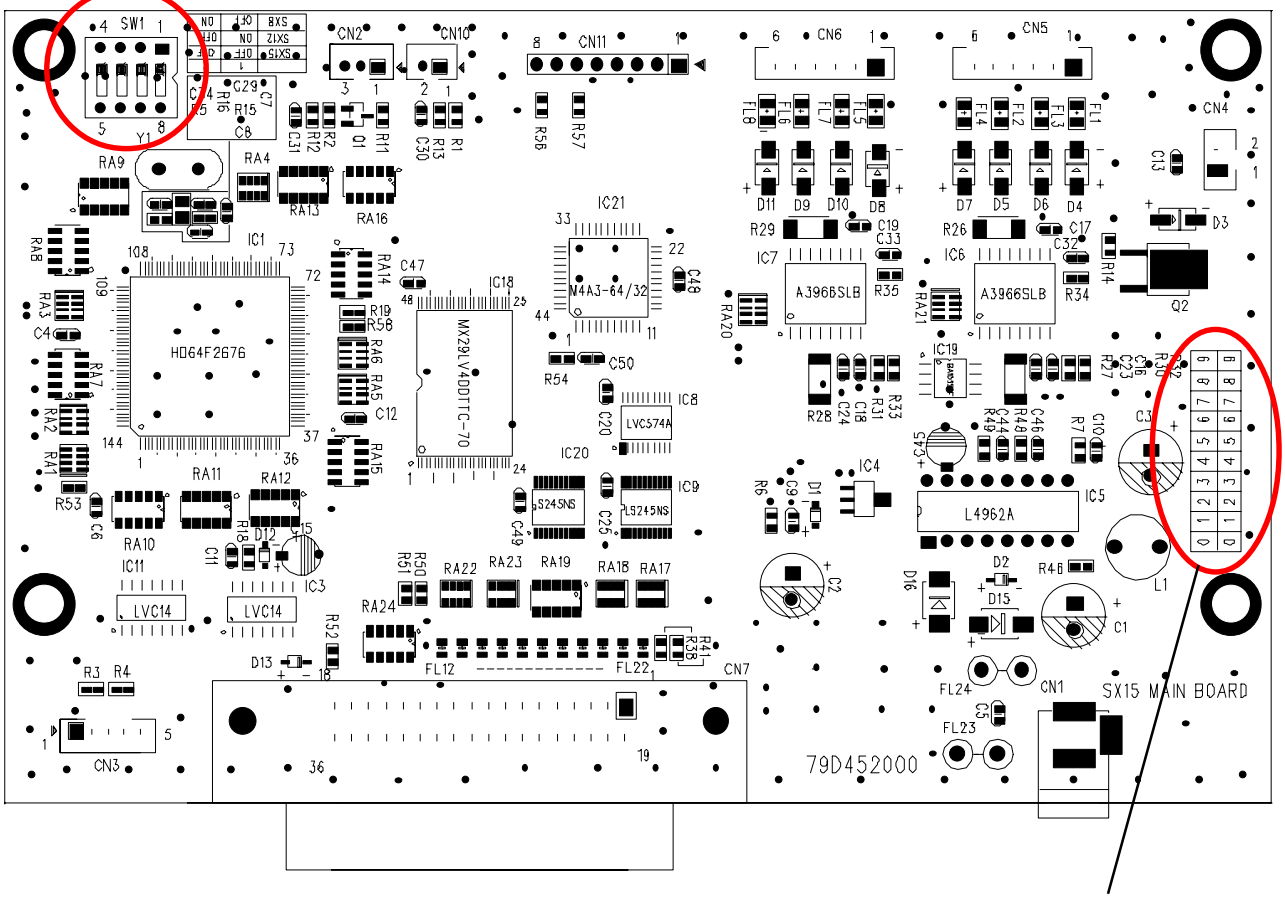


2-2 MAIN BOARD ASS'Y

MAIN BOARD ASS'Y_Component Diagram / Component Side

DIP SW

NO.	Function	ON	OFF
1	Model Selection	SX-15	1 : OFF 2 : OFF
2	Model Selection	SX-12 SX-8	1 : ON 2 : OFF 1 : OFF 2 : ON
3	Firmware Write	ON	OFF
4	-	Always OFF	

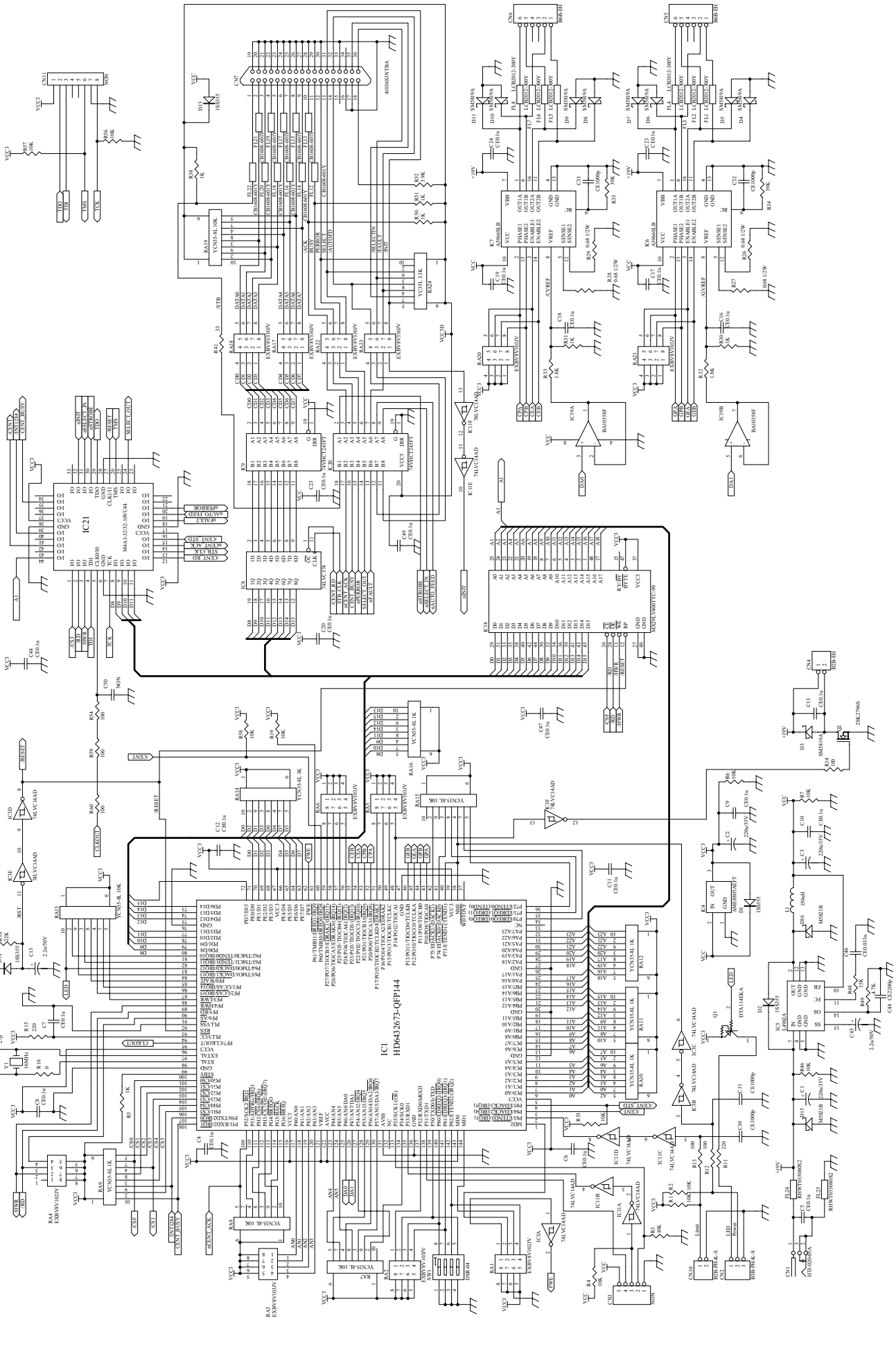


Indicates revision of the circut board.

Electric Maintenance Part

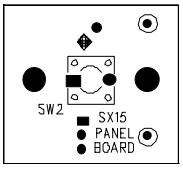
IC No.	Description	Function
IC4	AME8805AEFT	3.3V regulator
IC5	L4962A	5V regulator
IC6	A3966SLB	Grit Motor Driver
IC7	A3966SLB	Carriage Motor Driver
Q2	2SK2796S	Solenoid Driver

MAIN BOARD ASS'Y_Circuit Diagram

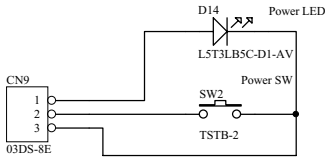


2-3 PANEL BOARD ASS'Y

PANEL BOARD ASS'Y_Component Diagram / Component Side



PANEL BOARD ASS'Y_Circuit Diagram



PANEL BOARD

3 Replacement of Main Parts

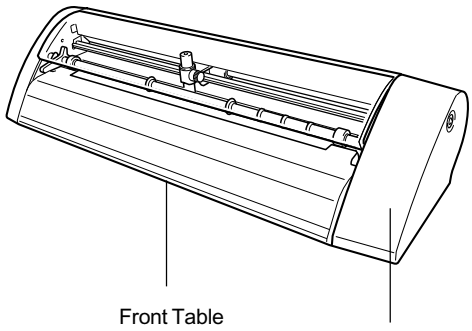
Following table describes the necessary adjustment after the replacement of each parts.

Replacement Parts	Necessary Adjustment
CARRIAGE MOTOR	1. Motor Backlash Adjustment

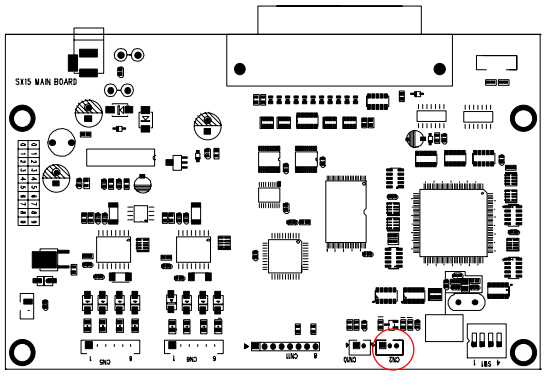
Replacement Parts	Necessary Adjustment
GRIT MOTOR	1. Motor Backlash Adjustment

3-1 CARRIAGE MOTOR_REPLACEMENT
(Referential Time : SX-15 3min. / SX-12/8 5 min.)

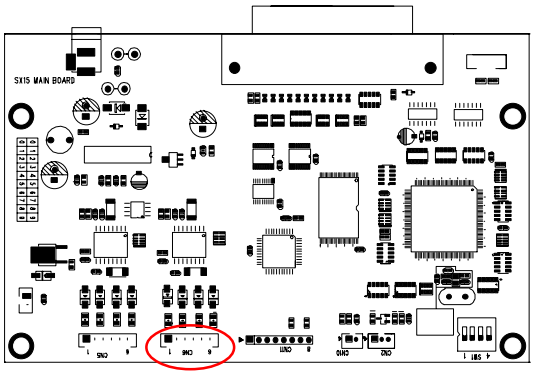
1 Remove the Front Table.



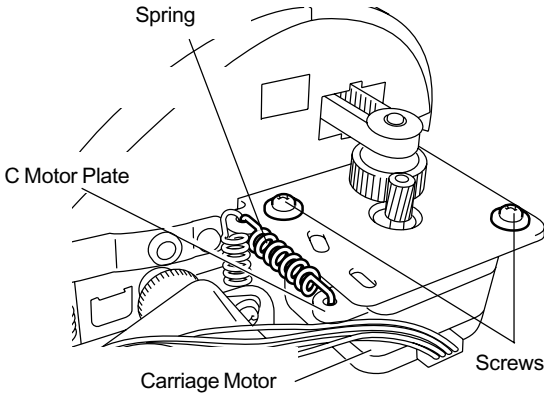
2 Disconnect the Panel cable from the CN2 on the Main Board. Unhook the bottom part of the Right Side Cover from the Frame and then, remove it.



3 Disconnect the Carriage Motor Cable from the CN6 on the Main Board.

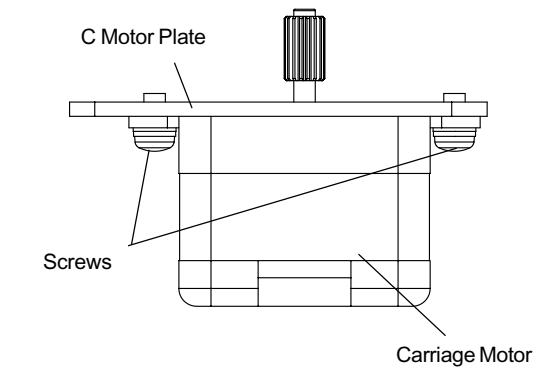


4 Remove the Spring and Screws for fixing the Carriage Motor. Then, remove the C Motor Plate together with the Carriage Motor.



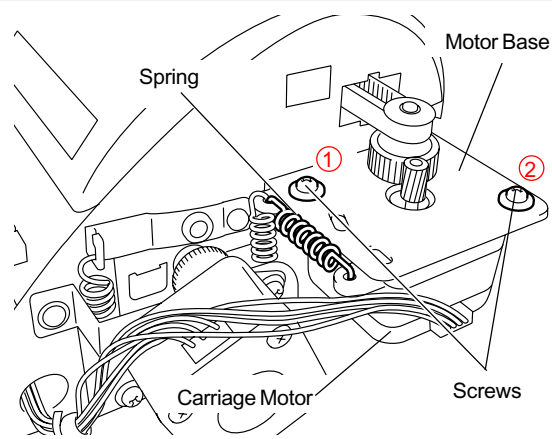
5 Remove the Carriage Motor from the C Motor Plate and fix the new Carriage Motor to the C Motor Plate.

Make sure that the fixing direction of the C Motor Plate is correct.

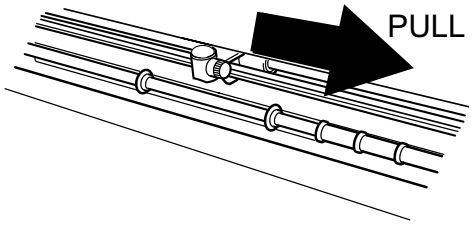


6 Fix the C Motor Plate together with the new Carriage Motor to the Motor Base temporarily and hook the Spring. Then, tighten the screw in order as shown in the figure.

Make sure that there is no backlash when the Carriage Motor is fixed.

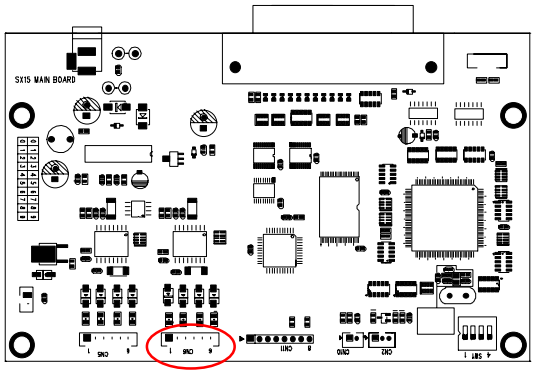


7 [SX-12/8 Load Check]
Make sure that the load when pulling the Carriage with Tension Gauge (ST-001) is less than 6.6N (675gf).
(If the load is not the rated value, fix the Carriage motor to the part where the gear engage the strongest and check the load again.)

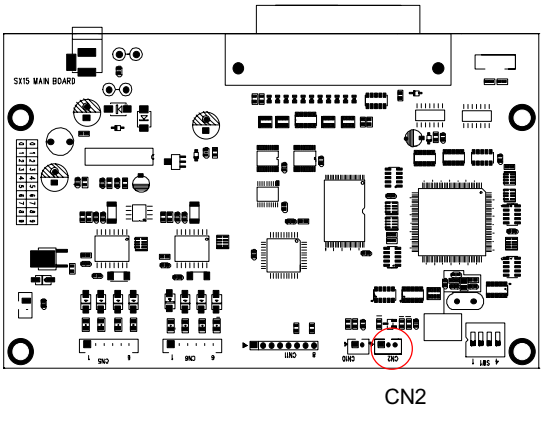


Backlash Adjustment is done automatically by the strength of the Spring.
However, it is necessary to check the load with the SX-12/8 because the motor torque of the SX-12/8 is smaller than that of the SX-15.
When the load is bigger than the rated value, the loose-step could occur.

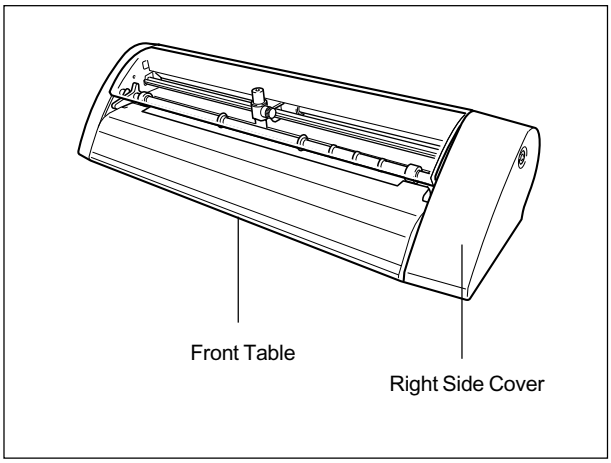
8 Connect the Carriage Motor Cable to the CN6 on the Main Board.



9 Connect the Panel Cable to the CN2 on the Main Board.
Hook the bottom part of the Right Side Cover and fix it.

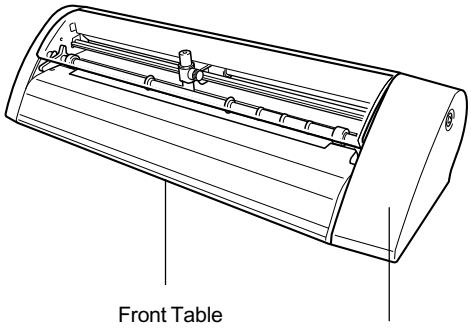


10 Fix the Front Table.

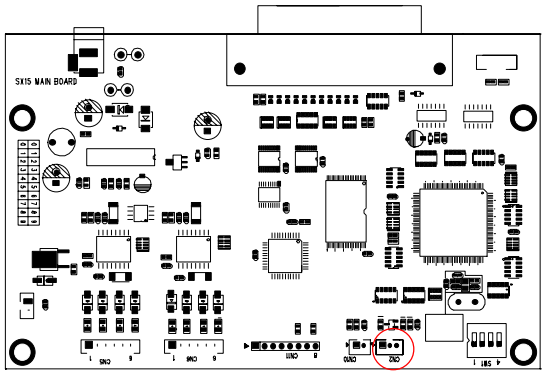


3-2 GRIT MOTOR_REPLACEMENT (Referential Time : SX-15 3min. / SX-12/8 5 min.)

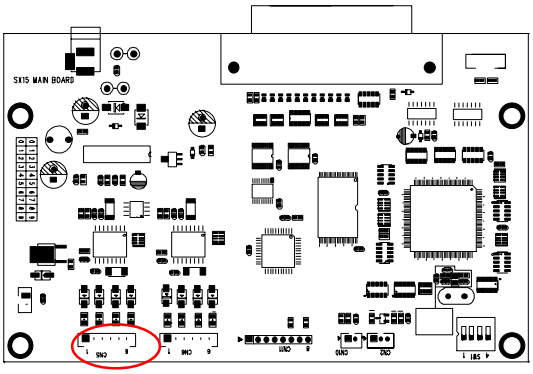
1 Remove the Front Table.



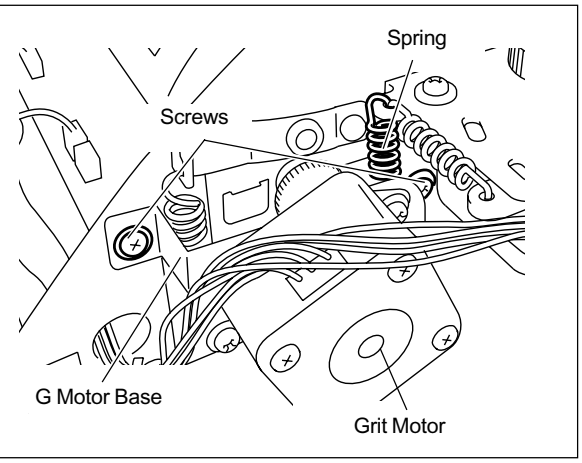
2 Disconnect the Panel cable from the CN2 on the Main Board. Unhook the bottom part of the Right Side Cover from the Frame and then, remove it.



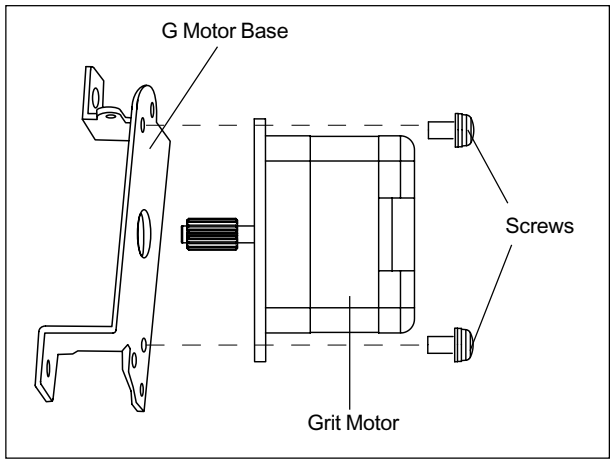
3 Disconnect the Grit Motor Cable form the CN5 on the Main Board.



4 Remove the Spring and Screws for fixing the Grit Motor. Then, remove the G Motor Base together with the Grit Motor.

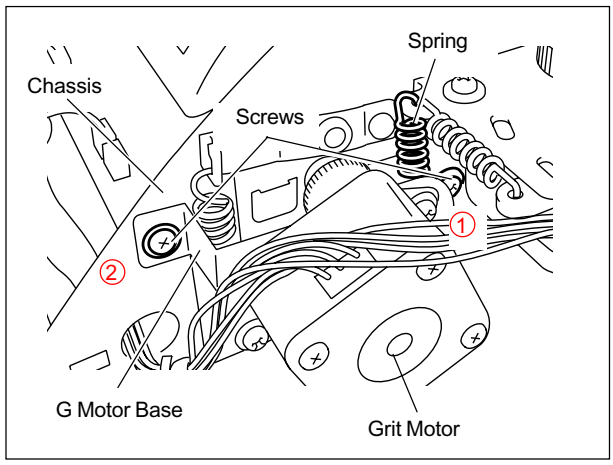


5 Remove the Grit Motor from the G Motor Base and fix the new Grit Motor to the G Motor Base.



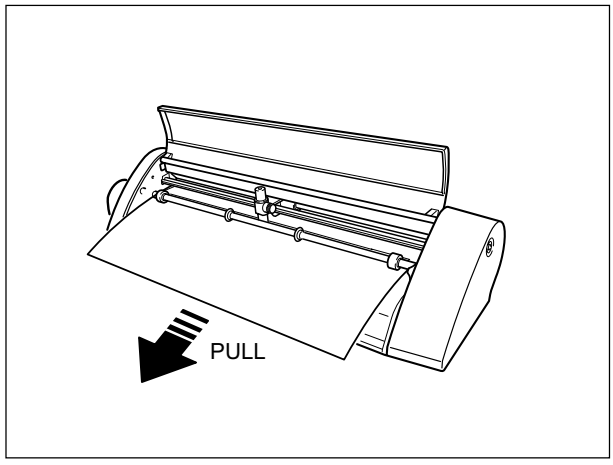
Make sure that the fixing direction of the G Motor Base is correct.

6 Fix the G Motor Base together with the new Grit Motor to the Chassis temporarily and hook the Spring.
Then, tighten the screw in order as shown in the figure.



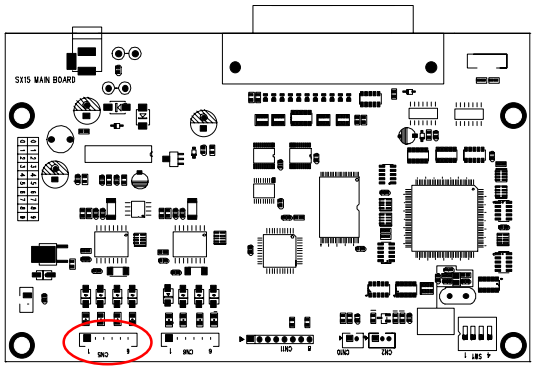
Make sure that there is no backlash when the Grit Motor is fixed.

7 [SX-12/8 Load Check]
Make sure that the load when pulling the Sheet with Tension Gauge (ST-001) is less than 6.5N (660gf).
(If the load is not the rated value, fix the Grit Motor to the part where the gear engage the strongest and check the load again.)

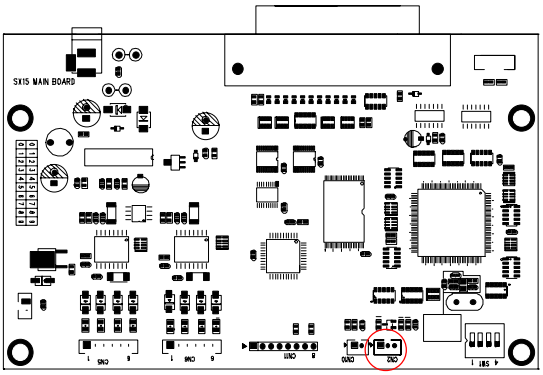


Backlash Adjustment is done automatically by the strength of the Spring.
However, it is necessary to check the load with the SX-12/8 because the motor torque of the SX-12/8 is smaller than that of the SX-15.
When the load is bigger than the rated value, the loose-step could occur.

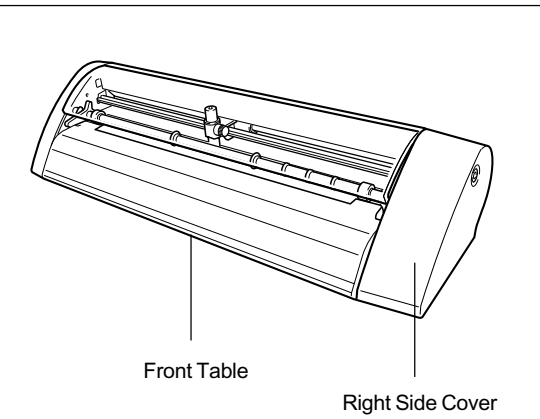
8 Connect the Carriage Motor Cable to the CN5 on the Main Board.



9 Connect the Panel Cable to the CN2 on the Main Board. Hook the bottom part of the Right Side Cover and fix it.



10 Fix the Front Table.

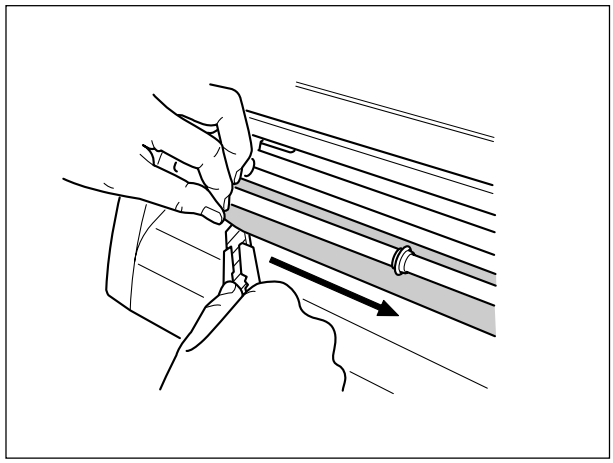


3-3 CUTTER PROTECTION_REPLACEMENT (Referential Time : 3min.)

1 Peel off the Cutter Protection from the machine and remove it.

Using a commercially available cutter knife or the like may make peeling easier.

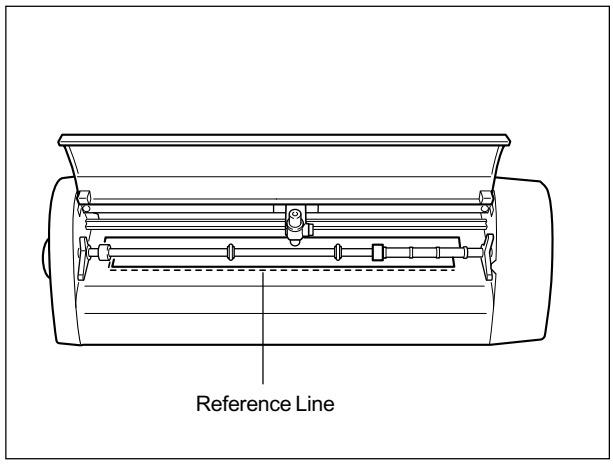
As for the SX-15, raise the left and right sheet adjustment levers and remove the Cutter Protection.



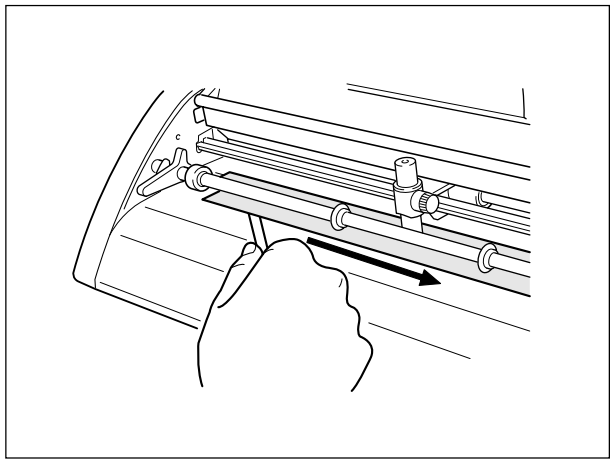
Use a cloth or the like to wipe away any remaining adhesive on the machine.

2 Place the new Cutter Protection on the Front Table.

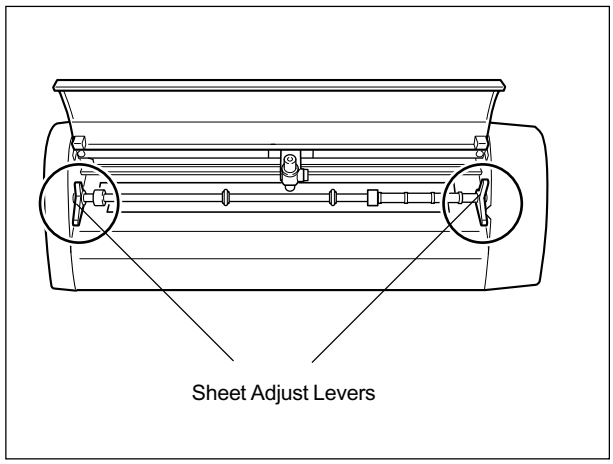
Use the reference line shown on the SX-15/12/8 as a guide for alignment.



3 Peel off the double-sided tape and attach the new Cutter Protection.



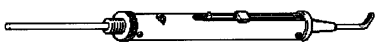
4 As for the SX-15, lower the left and right sheet adjustment levers.



4 Adjustment

4-1 Special Tools

Table shows a list of special tools recommended by Roland DG Corp.

Tool No.	ST-001	
Tool Name	TENSION GAUGE 20N (2000g)	
Purpose	Measurement of the load in both Carriage and Grit Roller direction.	

4-2 SERVICE MODE

ROM VERSION CHECK DEMO

Connect AC Adapter to SX-15/12/8 while pressing [STANDBY] key.

↓

Release the [STANDBY] key and make sure the Carriage moves to the origin.

↓

Make sure the [STANDBY] LED is lit and hold down the [STANDBY] key for 2 seconds or longer

↓

STX-15/12/8 cuts the ROM Version.

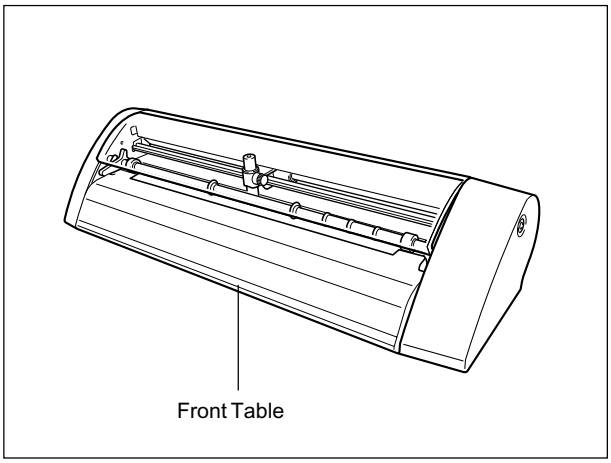
For example SX-15
MAIN : A130
BOOT : B100

↓

Turn off the power.

4-3 HOW TO UPGRADE FIRMWARE

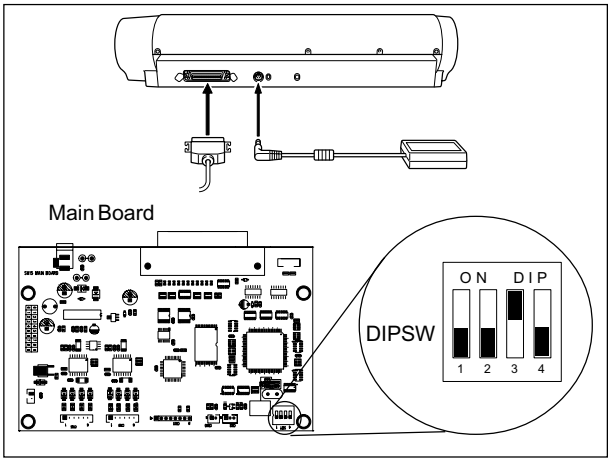
1 Remove the Front Table.



It is necessary to prepare the followings to upgrade the FIRMWARE.

1. Firmware Disk
2. PC with MS-DOS
3. Parallel Cable

2 Connect the PC and the SX-15/12/8 with the Parallel Cable. Turn on the DIP SW-3 on the Main Board and connect the AC adapter.

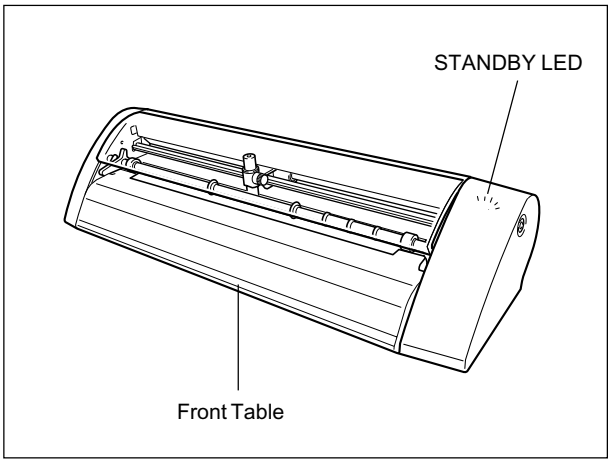


3 Open the [download.bat] file in the Firmware Disk.

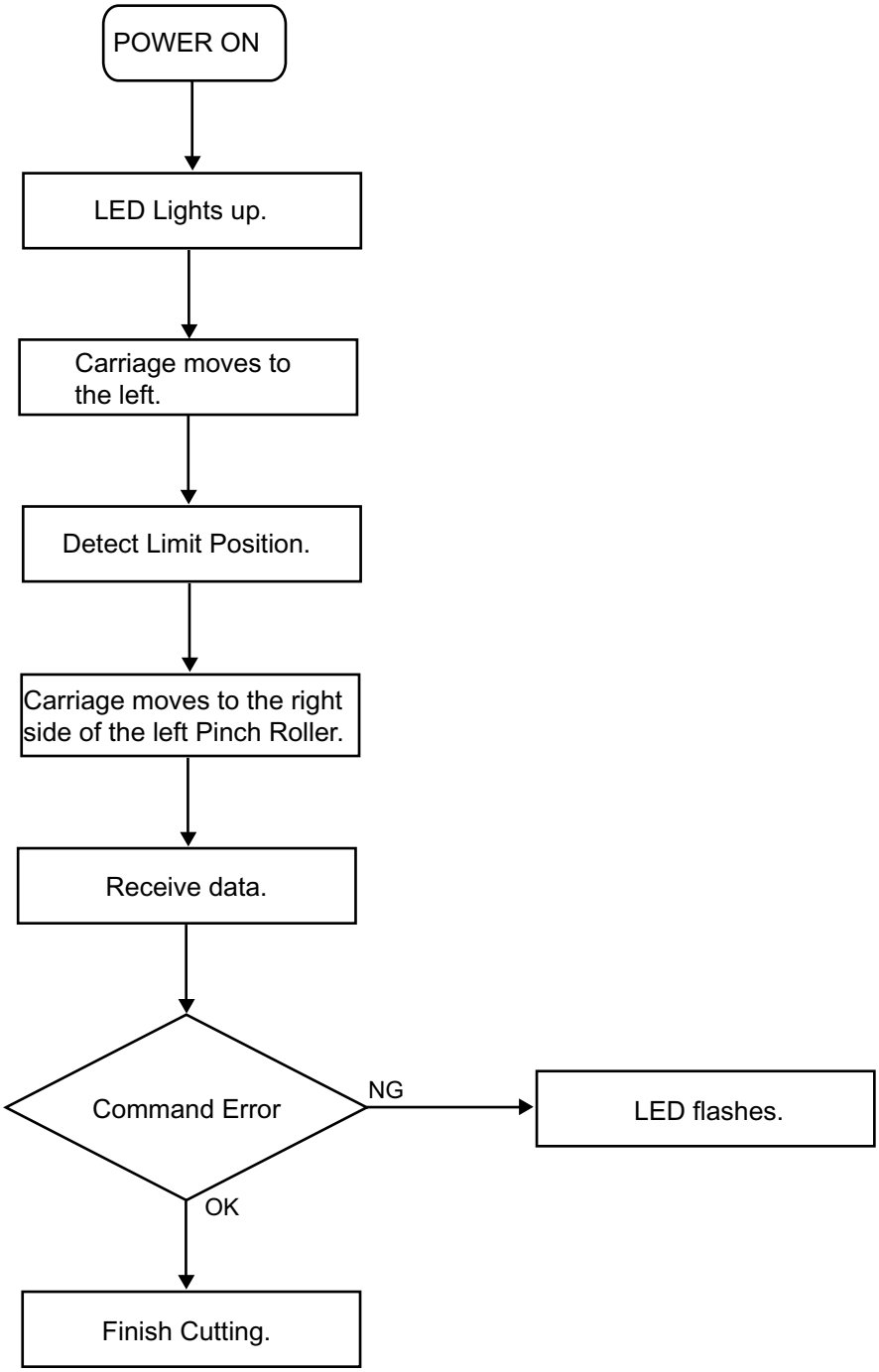
Some PCs can not use the BAT FILE. Please refer to the ReadMe File in the Firmware Disk.

4 STANDBY LED starts blinking slowly when the upgrade is completed without any problem.
In case of problem, STANDBY LED blinks quickly.

Disconnect the AC adapter and turn off the DIP SW-3 and then, fix the Front Cover.



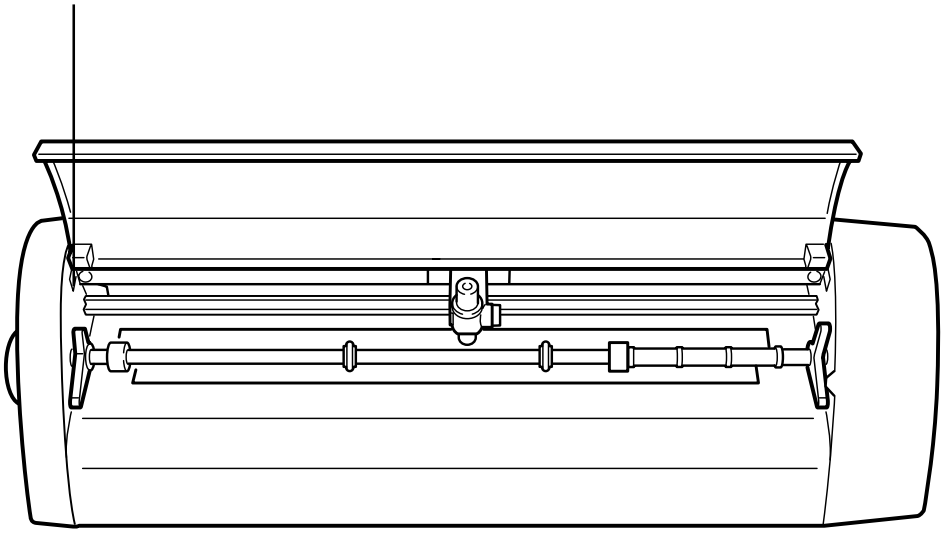
5-1 OPERATIONAL SEQUENCE



5-2 SENSOR MAP

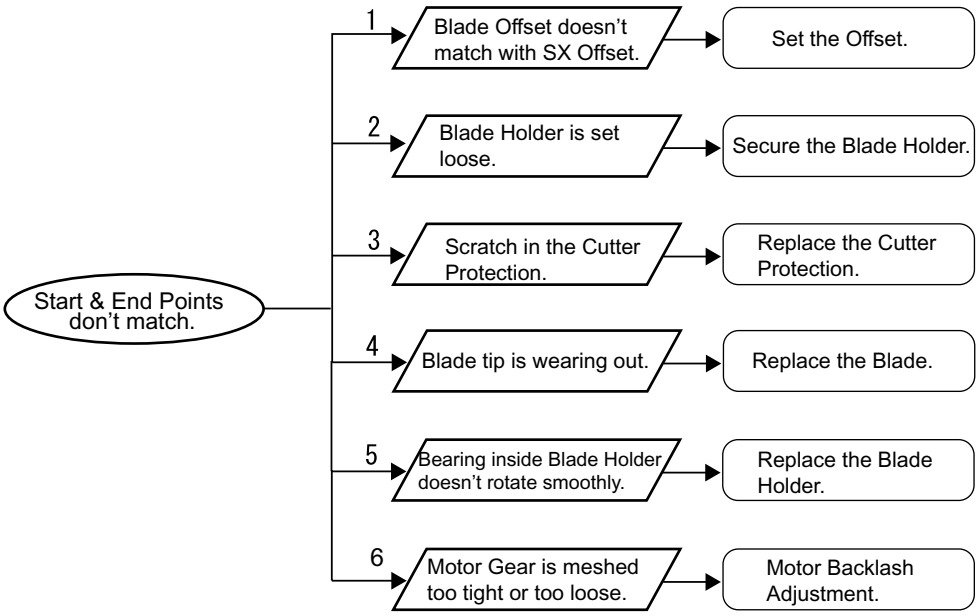
LIMIT SW

This sensor detects the limit of the Carriage Moving Direction.



6-1 START & END POINTS DON'T MATCH

START & END POINTS DON'T MATCH_FLOWCHART

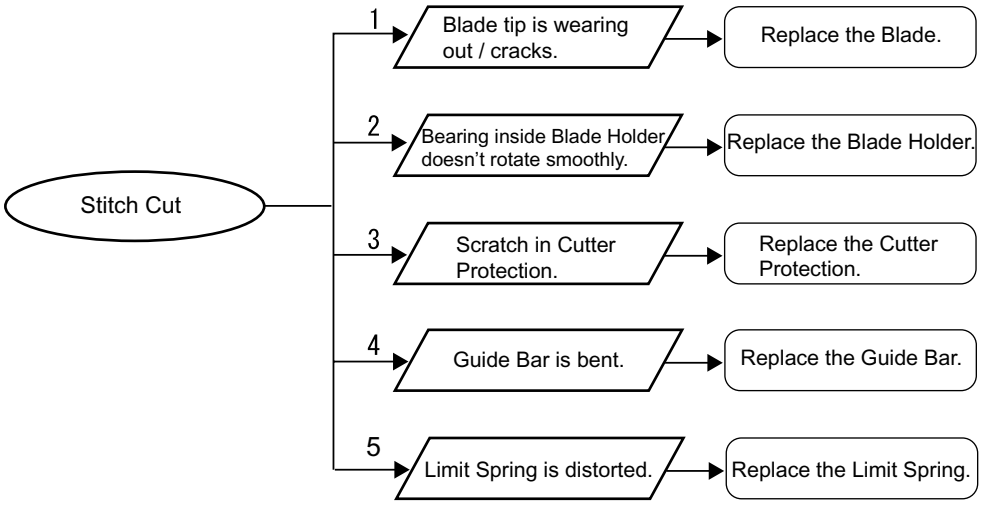


START & END POINTS DON'T MATCH_OUTLINE

No.	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Blade Offset doesn't match with SX Offset.	Set the Offset.		Blade used on the SX has offset and therefore, tip is shifted from its center. When the offset setting done on SX doesn't match with the blade offset, offset correction won't be done. Therefore, the starting and ending points won't match because the direction of the blade slightly shifts from the correct direction.
2	Blade Holder is set loose.	Secure the Blade Holder.		When Blade Holder is set loose to Carriage, the blade tip becomes very shaky when cutting and results in distorted figure.
3	Scratch in the Cutter Protection.	Replace the Cutter Protection.	Sect.3[Cutter Protection_Replacement]	Cutter Protection is where the blade lands for cutting. If there is scratch in the Cutter Protection, blade can not rotate smoothly and cause the starting and ending points to be shifted.
4	Blade tip is wearing out.	Replace the Blade.		When blade tip wears out, offset will be changed. Therefore, as same as 1, the starting and ending point won't match especially when cutting circles.
5	Bearing inside Blade Holder doesn't rotate smoothly.	Replace the Blade Holder.		There are bearings inside the Blade Holder. When the bearings don't rotate smoothly, direction of the blade slightly shifts from the correct direction and therefore, starting and ending points don't match.
6	Motor Gear is meshed too tight or too loose.	Motor Backlash Adjustment		When Motor Gear is meshed too tight or too loose, Tool Carriage and Grit Roller will be driven unstable and results in starting and ending points to shift.

6-2 STITCH CUT

STITCH CUT_FLOWCHART

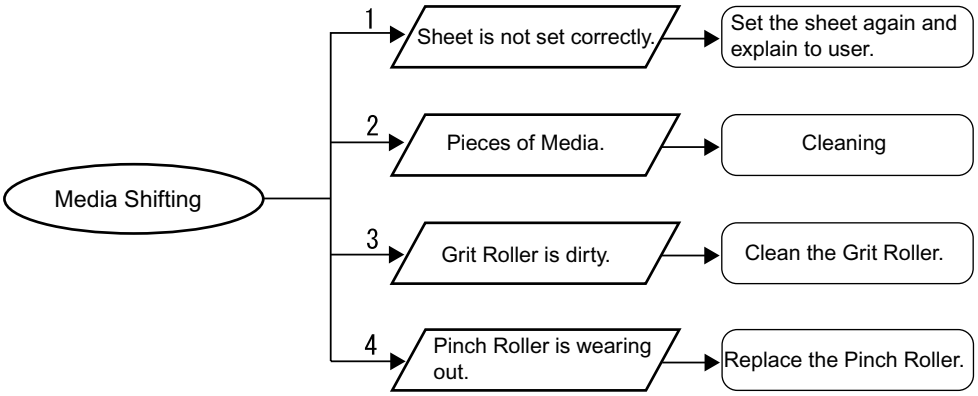


STITCH CUT_OUTLINE

No.	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Blade tip is wearing out / cracks.	Replace the Blade.		When blade wears out or cracks, it will be caught by the sheet and results in stitch cut.
2	Bearing inside Blade Holder doesn't rotate smoothly.	Replace the Blade Holder.		There are bearings inside the Blade Holder. When the bearings don't rotate smoothly, direction of the blade slightly shifts from the correct direction, therefore, it will be caught by the sheet which results in stitch cut.
3	Scratch in the Cutter Protection.	Replace the Cutter Protection.	Sect.3[Cutter Protection_Replacement]	Cutter Protection is where the blade lands for cutting. If there is scratch in the Cutter Protection, blade is caught by the sheet because it sticks deeper into the sheet and results in stitch cut.
4	Guide Bar is bent.	Replace the Guide Bar.		When the Guide Bar is bent, the movement in the carriage direction and Tool down are not done correctly and blade is caught by the sheet and results in stitch cut.
5	Limit Spring is distorted.	Replace the Limit Spring.		When the Limit Spring is distorted, the tool down can not be done smoothly and the tool hit the table and results in stitch cut.

6-3 MEDIA SHIFTING

MEDIA SHIFTING_FLOWCHART

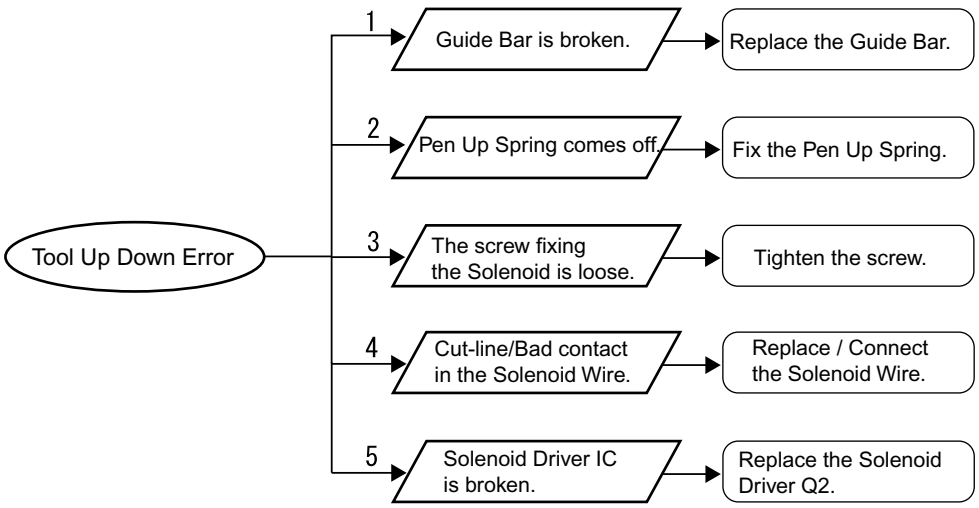


MEDIA SHIFTING_OUTLINE

NO.	CHECK POINT	ACTION	REFERENCE	OUTLINE
1	Sheet is not set correctly.	Set the sheet again and explain to user.		The most effective measure against media shifting is to set the media straight to the machine. Small tilting of the media when setting it up could result in big shifting especially doing long print. As for the SX-15/12, please make sure to lower the Sheet adjustment lever.
2	Pieces of Media	Cleaning		When dust as pieces of media is stick to the feeding place, making contact with the dust during the cutting and results in media shifting.
3	Grit Roller is dirty.	Clean the Grit Roller.		When dust such as pieces of Media is stick to the Grit Roller, power to hold the sheet will be weakened and results in media shifting. Use brush to clean the Grit Roller.
4	Pinch Roller is wearing out.	Replace the Pinch Roller.		When the Pinch Rollers wear out, power to hold the media will be weakened and results in media shifting.

6-4 TOOL UP DOWN ERROR

TOOL UP DOWN ERROR_FLOWCHART

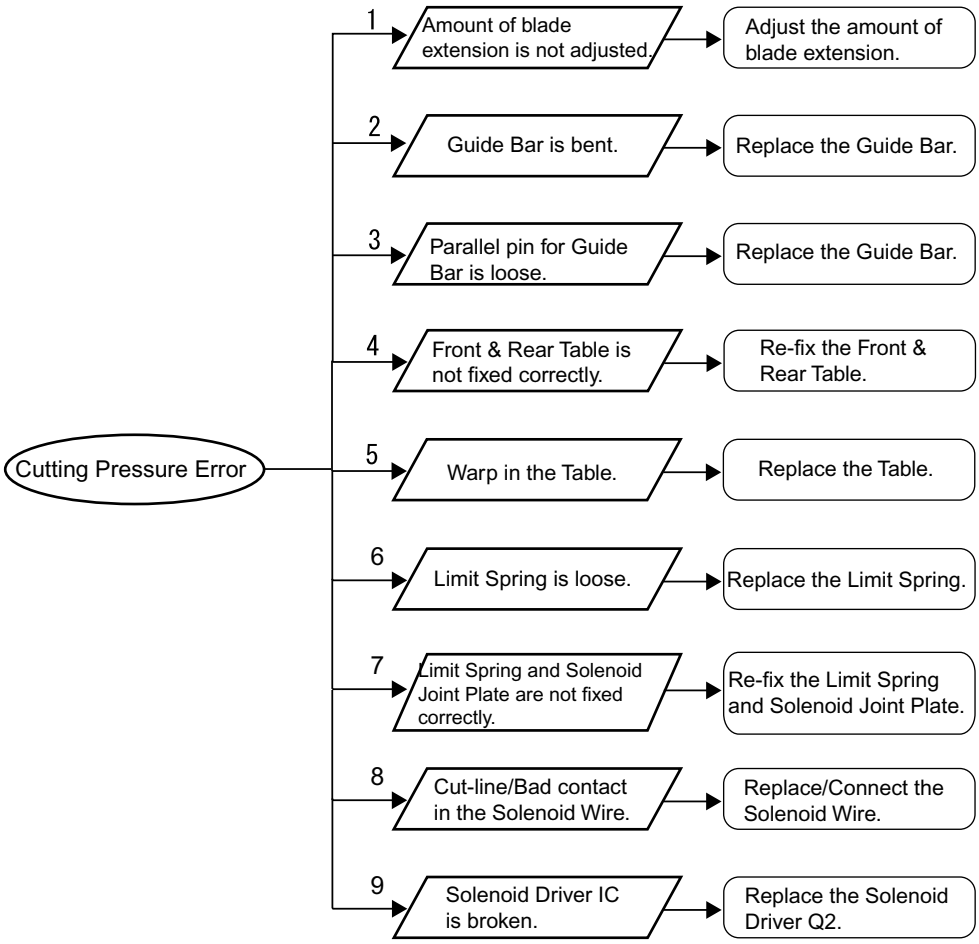


TOOL UP DOWN ERROR_OUTLINE

NO.	CHECK POINT	ACTION	REFERENCE	OUTLINE
1	Guide Bar is broken.	Replace the Guide Bar.		Guide Bar is the place where the carriage moves. When the Guide Bar is broken, the tool up/down can not be done smoothly.
2	Pen Up Spring comes off.	Fix the Pen Up Spring.		When the Pen Up Spring comes off, the movement from the Solenoid Driver doesn't supply and results in tool up/down error.
3	The screw fixing the Solenoid is loose.	Tighten the screw.		When the screw fixing the Solenoid is loose, the tool up/down can not done smoothly because of the backlash.
4	Cut-line /Bad contact in the Solenoid Wire.	Replace / Connect the Solenoid Wire.		When there is cut-line and bad contact in the Solenoid Wire, the current is not supplied from the Main Board to the Solenoid and the carriage doesn't move.
5	Solenoid Driver IC is broken.	Replace the Solenoid Driver Q2.		When the Solenoid Driver Q2 is broken, the current is not supplied to solenoid and result in tool up/down error.

6-5 CUTTING PRESSURE ERROR

CUTTING PRESSURE ERROR_FLOWCHART


Cutting Pressure Error
1
Amount of blade extension is not adjusted.
Adjust the amount of blade extension.
2
Guide Bar is bent.
Replace the Guide Bar.
3
Parallel pin for Guide Bar is loose.
Replace the Guide Bar.
4
Front & Rear Table is not fixed correctly.
Re-fix the Front & Rear Table.
5
Warp in the Table.
Replace the Table.
6
Limit Spring is loose.
Replace the Limit Spring.
7
Limit Spring and Solenoid Joint Plate are not fixed correctly.
Re-fix the Limit Spring and Solenoid Joint Plate.
8
Cut-line/Bad contact in the Solenoid Wire.
Replace/Connect the Solenoid Wire.
9
Solenoid Driver IC is broken.
Replace the Solenoid Driver Q2.

CUTTING PRESSURE ERROR_OUTLINE

NO.	CHECK POINT	ACTION	REFERENCE	OUTLINE
1	The amount of blade extension is not adjusted.	Adjust the amount of blade extension.		When the amount of blade extension is not adjusted, cutting pressure might not be correct.
2	Guide Bar is bent.	Replace the Guide Bar.		When the Guide Bar is bent, the tool up/down is not done smoothly and the blade does not land correctly, and results in weak cutting pressure.
3	Parallel pin for the Guide Bar is loose.	Replace the Guide Bar.		When the parallel pin for the Guide Bar is loose, tool up/down can not be done smoothly and the blade can not be landed correctly, and results in weak cutting pressure.
4	Front & Rear Table is not fixed correctly.	Re-fix the Front & Rear Table.		When there is a backlash in the Front & Rear Table, the blade is not landed correctly and results in weak cutting pressure.
5	Warp in the Table	Replace the Table.		When there is a warp in the Table, the blade is not landed correctly and results in weak cutting pressure.
6	Limit Spring is loose.	Replace the Limit Spring.		When the Limit Spring is loose, tool up/down can not be done and SX can not cut.
7	Limit Spring and the Solenoid Joint Plate are not fixed correctly.	Re-fix the Limit Spring and the Solenoid Joint Plate.		When the Limit Spring and the Solenoid Joint Plate are not fixed correctly, tool up/down is not done smoothly and results in weak cutting pressure.
8	Cut-line /Bad contact in the Solenoid Wire.	Replace / Connect the Solenoid Wire.		When there is cut-line and bad contact in the Solenoid Wire, the current is not supplied from the Main Board to the Solenoid and the carriage doesn't move.
9	Solenoid Driver IC is broken.	Replace the Solenoid Driver Q2.		When the Solenoid Driver Q2 is broken, the current is not supplied to solenoid and result in tool up/down error.

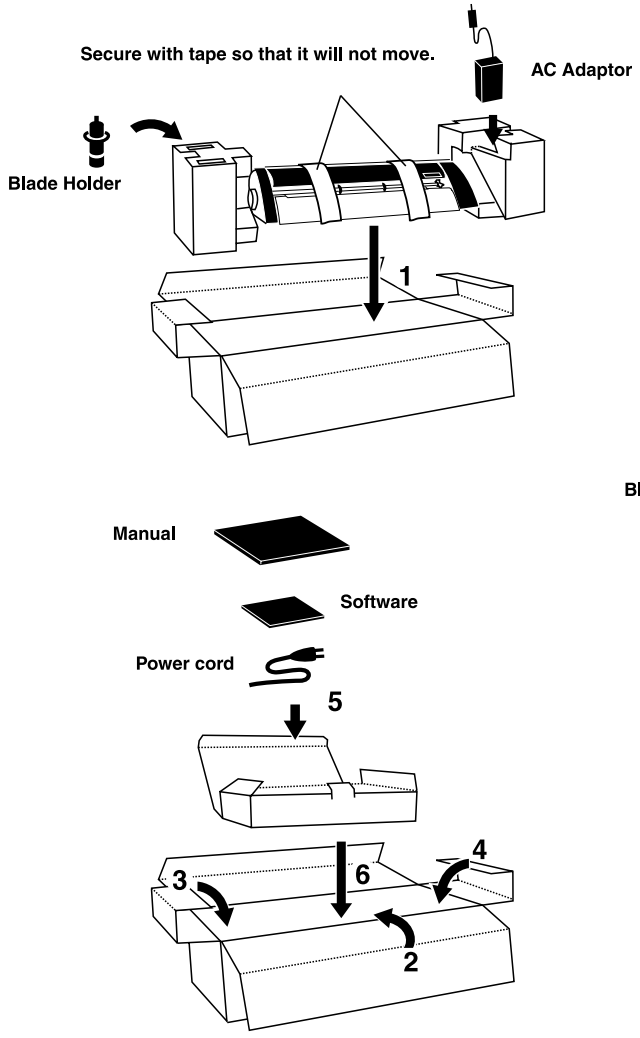
7-1 INSTALLATION CHECK LIST

SX-15/12/8 INSTALLATION CHECK LIST

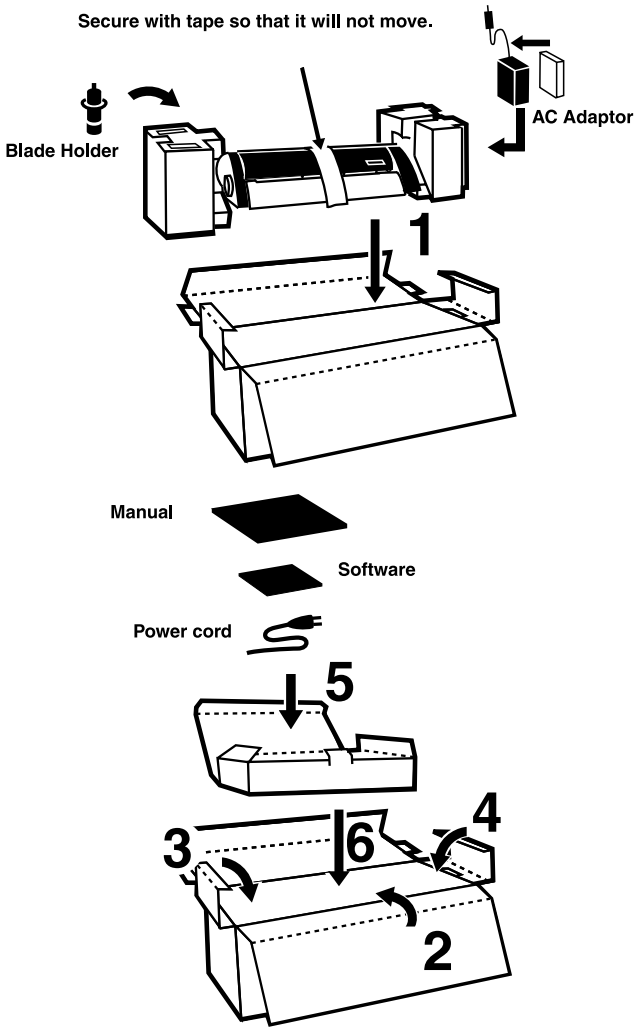
Model	Serial Number
SX-15 / SX-12 / SX-8	

User	Date

SX-15/12 Repacking

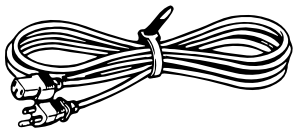


SX-8 Repacking

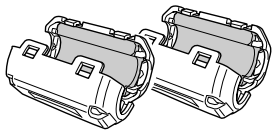


Accessories

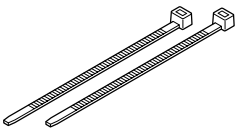
AC adapter x 1



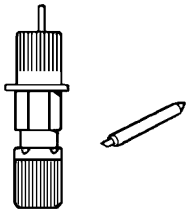
Power cord x 1



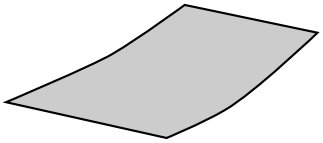
Ferrite cores x 2



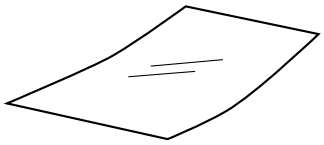
Cable ties x 2
* For securing ferrite cores.



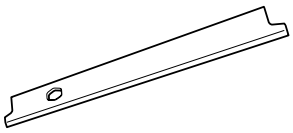
Blade holder/Blade x 1
*This blade holder and bladeare installed on the unit when shipped from the factory.



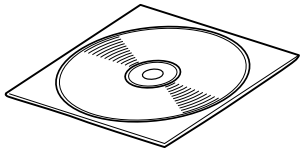
Material for test cuts x 1



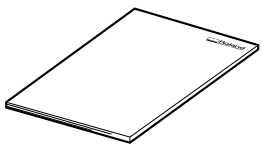
Application tape for test cuts x 1



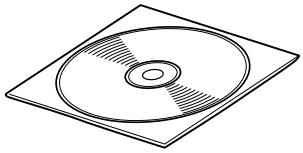
Replacement blade protector x 1
*The configuration differs according to the model.



Roland Software Package
CD-ROM x 1

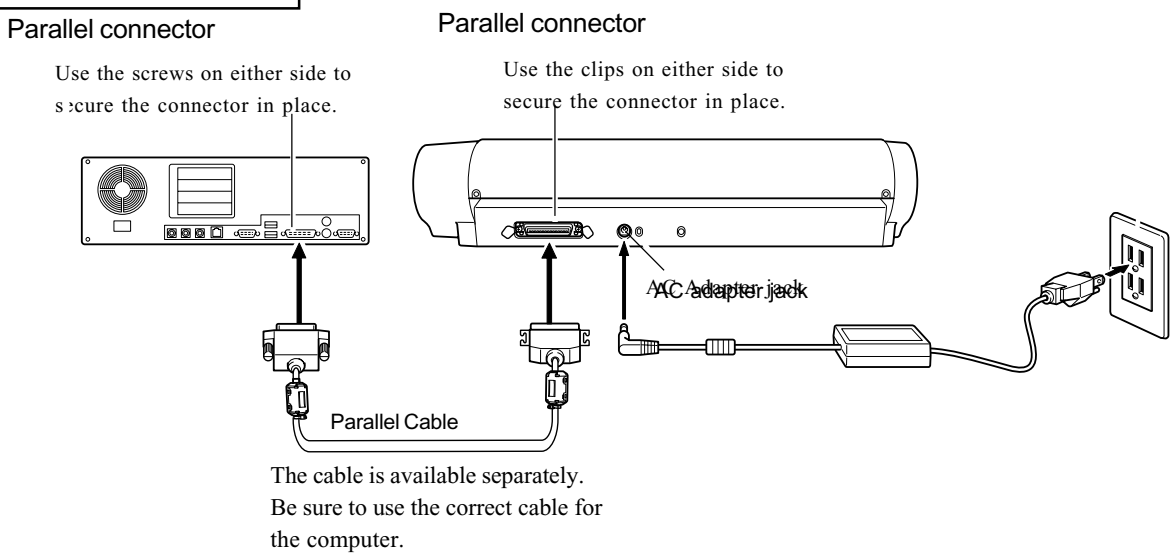


SX-15/12/8 User's Manual x 1



Roland CutChoicce
CD-ROM x 1

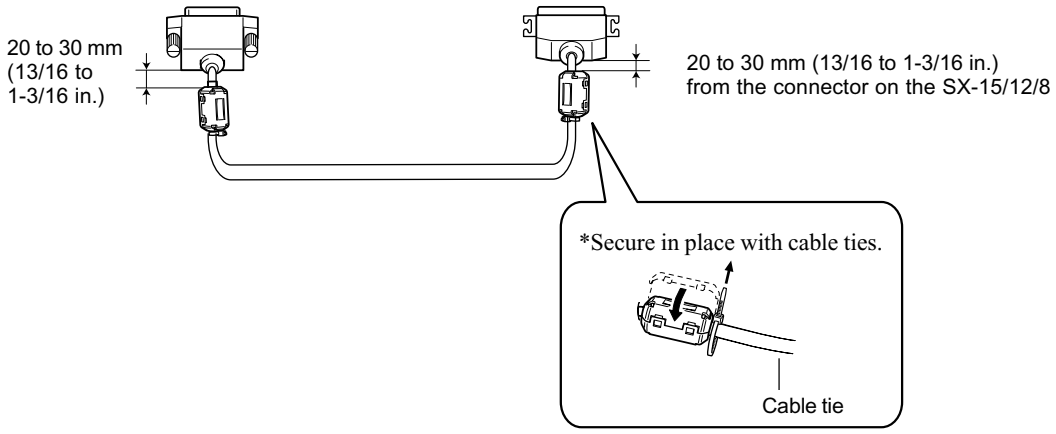
Connection


Parallel connector
Use the screws on either side to secure the connector in place.
Parallel connector
Use the clips on either side to secure the connector in place.
AC adapter jack
Parallel Cable

The cable is available separately.
Be sure to use the correct cable for the computer.

Attaching the ferrite cores

Attach the included ferrite core at the location on the connection cable shown in the figure.


20 to 30 mm (13/16 to 1-3/16 in.)
20 to 30 mm (13/16 to 1-3/16 in.) from the connector on the SX-15/12/8
*Secure in place with cable ties.
Cable tie

Preparation

- ☐ Installing the Driver / Software
- ☐ Installing Blade
- ☐ Load the Material

Acceptable material size

SX-15	SX-12	SX-8
Width : 360 to 381 mm (14-1/8 to 15 in.) Width : 280 to 305 mm (11 to 12 in.)	Width : 280 to 305 mm (11 to 12 in.)	Width : 200 to 215 mm (7-13/16 to 8-7/16 in.)
Length : 1100 mm (43-1/4 in.) or less		

☐ Setting

- ☐ Cutting Range
- ☐ Tool Conditions

☐ Cutting

- ☐ Test Cut
  - Adjusting the Amount of the Blade Extension
- ☐ Applying Cut Material

☐ Operation

- ☐ Test Cut
  - Adjusting the Amount of the Blade Extension
- ☐ Applying Cut Material
- ☐ Changing the Loaded Material Width on the SX-15

☐ Maintenance

- ☐ Cleaning Blade Tip / Blade Holder / Machine
- ☐ Replacing the Cutter Protection

7-2 MAINTENANCE CHECK LIST Revised 1

SX-15/12/8 MAINTENANCE CHECK LIST

Model	Serial No.
SX-15 SX-12 SX-8	

Date : . . .

MECHANICAL PARTS

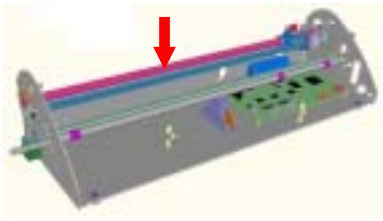
CHECK POINTS			CONFIRMATION
Carriage Driving Part	Drive Gear	Foreign substance	
	Backlash	Check Load	
Grit Driving Part	Drive Gear	Backlash	
	Backlash	Check Load	
	Grit Roller	Foreign substance	
Tool Carriage	Solenoid	Up/Down movement	
Blade Holder	Blade Holder	Rotation of the Bearing	
		Scratch	

LUBRICATION Revised 1

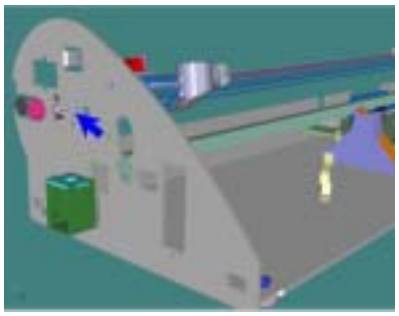
CHECK POINTS		CONFIRMATION
Floil G902Y	Carriage Idle Pulley Shaft	
	Carriage Drive Pulley Shaft	
	Carriage Drive Gear	
	Grit Drive Gear	
	Shaft Guide	
GE Toshiba Silicones YG6260	Parallel pin of the Guide Bar	

LUBRICATION PART Revised 1

<Floil G902Y>



<GE Toshiba Silicones YG6260>



FUNCTION CHECK

CHECK POINTS		CONFIRMATION
Firmware Version Upgrade the Firmware to the latest version.		
Demo Cut	Cutting Quality	
	Noise	

7-3 Specification

	SX-15	SX-12	SX-8
Max. cutting area	340 mm (X) x 1000 mm (Y) (13-3/8 in. (X) x 39-5/16 in. (Y))	250 mm (X) x 1000 mm (Y) (9-13/16 in. (X) x 39-5/16 in. (Y))	160 mm (X) x 1000 mm (Y) (6-1/4 in. (X) x 39-5/16 in. (Y))
Acceptable sheet size	Width : 360 to 381 mm (14-1/8 to 15 in.) Width : 280 to 305 mm (11 to 12 in.) Length : 1100 mm (43-1/4 in.) or less	Width : 280 to 305 mm (11 to 12 in.) Length : 1100 mm (43-1/4 in.) or less	Width : 200 to 215 mm (7-13/16 to 8-7/16 in.) Length : 1100 mm (43-1/4 in.) or less
Cutting speed	12 to 100 mm/sec. (7/16 to 3-7/8 in./sec)	12 to 40 mm/sec. (7/16 to 1-9/16 in./sec)	12 to 40 mm/sec. (7/16 to 1-9/16 in./sec)
Acceptable material	PVC sheet (0.1 mm (0.00394 in.) or less in thickness, 0.3 mm (0.0118 in.) or less in thickness including the backing board).		
Control keys	STANDBY key		
LED	STANDBY LED		
Interface	Parallel (IEEE 1284 compliant: Nibble mode)		
Power consumption	Exclusive AC adapter DC+19V 2.1A		
External dimensions	510 mm (W) x 165 mm (D) x 105 mm (H) (20-1/8 in. (W) x 6-1/2 in. (D) x 4-3/16 in. (H))	430 mm (W) x 165 mm (D) x 105 mm (H) (16-15/16 in. (W) x 6-1/2 in. (D) x 4-3/16 in. (H))	330 mm (W) x 165 mm (D) x 105mm (H) (13 in. (W) x 6-1/2 in. (D) x 4-3/16 in. (H))
Weight (unit only)	3.1 Kg (6.8 lb)	2.6 Kg (5.7 lb)	2.1 Kg (4.6 lb)
Acoustic noise level	60 dB (A) or less (According to ISO 7779)		
Operation temperature	5 to 40 °C (41 to 104 °F)		
Operation humidity	35 to 80 % (no condensation)		
Accessories	AC adapter : 1, Power cord : 1, Ferrite cores : 2, Cable ties (For securing ferrite cores) :2, Blade holder/Blade : 1, Material for test cuts : 1, Application tape for test cuts : 1, Blade protect : 1, Roland Software Package CD-ROM: 1, Roland CutChoice CD-ROM : 1, SX-15/12/8 User's Manual : 1		

Interface Specification

[Parallel]	
Standard	IEEE 1284 compliant: Nibble mode
Input signal	$\overline{\text{STROBE}}$ (1BIT), DATA (8BIT), $\overline{\text{SLCT IN}}$, $\overline{\text{AUTO FEED}}$, $\overline{\text{INT}}$
Output signal	BUSY (1BIT), $\overline{\text{ACK}}$ (1BIT), $\overline{\text{FAULT}}$, SLCT, PERROR
I/O signal level	TTL level
Transmission method	Asynchronous

Roland

SX-15/12/8